

IS ILAM STONE
Architectural Cast Stone Masonry

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"Quality Architectural Cast Masonry"

Architectural Cast Stone has for many years, been used as a cost effective alternative to Natural Stone. 'Ilam stone' products whether 'Standard' or 'Bespoke' have been an important feature of good building design for some time and will enhance any project on which they are used.

The level of craftsmanship employed ensures that each product manufactured has an authentic appearance and the manufacturing processes utilised create a product with all the weathering characteristics, durability and structural integrity

of natural stone.



Dimensional tolerances

Dimensional tolerances permitted by BS 1217: 2008: - Dimension (mm) up to 600 601-1000 1001-2500 2500-4000 >4000 Tolerance (mm) \pm -2 \pm -3 \pm -4 \pm -5 \pm -6 NB: All items over 1547mm in length will be supplied in two or more pieces for ease of handling.

Manufacturing Tolerances

Flatness of Plain Surface

Maximum deviation from plane should not exceed 0.3% of the diagonal dimension of the item or 2mm whichever is the greater measured across two diagonals.

Compressive Strength and Density

>35N/mm2 (35 MPa) - Typical Material Density = 2100Kg/M3.

Water Absorption

<1.00mg/mm2 (Cap test)

Drying Shrinkage

< 0.04%

Thermal Conductivity 'K'

Exposed: 1.40W/m degree C - Protected: 1.26W/m degree C.











In 1998, 'llam stone' began manufacturing high quality Cast Stone Fire Surrounds, from a small factory in Derby, for 'Kedleston Fireplace and Heating Centre' these being for a range of customers from Private to volume House Builders. The switch to exterior Cast Stone products came as a result of a large number of requests from customers who found it difficult to source a 'quality product' from their existing suppliers. The demand for exterior Cast Stone dressings became so great that the small site in Derby proved inadequate, we therefore relocated, in January 2001, to our current site on the Meadow Lane Industrial Estate in Alfreton, Derbyshire. The increased Production and Storage space has enabled us to undertake large projects. Although, our current Customer list contains some of the Country's leading House Builders and Developers, a large percentage of the Cast Stone components we produce are purpose made to Customer requirements. The ability to produce CAD component drawings for customer approval adds substance to our in house quality system. Using the 'AutoCAD' system enables close liaison with the Architect,

those requiring a



property), to those wishing to incorporate many different products on large-scale New Build projects.



Sourced from naturally occurring high-grade limestone and sandstone aggregates together with cement, pigments and waterproofing agents. All Architectural Cast Stone Masonry is manufactured and CE marked to BS EN 771 where appropriate, or to BS 1217 where CE marking is not required. Construction Material Testing Limited of Derby, an independent laboratory, carries out the periodic testing of products for both crushing strength & capillary absorption. Copies of the results are available on request.



All 'llam stone' products are cast in timber, resin or steel moulds. All moulds being constructed to a high degree of accuracy from workshop drawings produced in house using the latest CAD facilities. Our own skilled mould makers produce most of the moulds required. All components are made using the 'Semi Dry' process, this enables each item to be immediately demoulded and hand finished. Initial curing is then carried out in a controlled environment before being packed.













Many individual designs are inspired by classical architecture or more decorative styles. These unusual sizes, intricate or irregular shapes and special colours can, in most cases, be made to suit your particular project. Ilamstone's design department will liaise with your 'Designer' or 'Architect' to create purpose-made products to your specifications.

General guidance can be found in the following British Standards: - BS 5390 -Code of Practice for Stone Masonry, BS 5628 Code of Practice for the use of Masonry, BS 6399 Design Load of Buildings, BS 6100 Glossary of Building and Engineering Terms and BS 8000 Code of Practice for Masonry.

Other designs can be made to suit customers requirement

Wet Cast Stone TREADS RISERS & THRESHOLDS

WC/R1 Plain Risers Max Length Weight Kg WC/R1 WC/R1 50 x 150mm 1200mm 19kg Per M **TREADS** 50 x 215mm 1200mm 27kg Per M **WC/ST1 Plain Treads** WC/ST1 Max Length Weight Kg WC/ST1 50 x 330mm 1200mm 41kg Per M

WC/ST2 Bull Nosed **Treads**

Max Length Weight Kg 60 x 325mm 1500mm 49kg Per M 60 x 400mm 1500mm 60kg Per M

WC/ST3 Bull Nosed Treads & Risers

Max Length Weight Kg 60 x 325mm 1500mm 66kg Per M

WC/ST4 Plain **Treads & Risers**

Max Length Weight Kg 50 x 325mm 1500mm 57kg Per M



WC/TH Door Threshold

Max Length 65 x 150 mm 1500mm 23kg Per M 140 x 150 mm 2100mm 44.5kg Per M



Ilam Wet Cast

llam stone wet cast architectural masonry is an extremely durable, high strength material available in a wide range of colours and finishes. The use of wet cast components is ideal in situations where high strength structural capacity and inherent durability are essential. Additionally, wet cast components have a higher resistance to abrasion and impact damage, particularly exposed arrises.

llam stone provides a fully bespoke service in the supply of wet cast products. It is important that Ilam stone be involved in the design process as early as possible where wet cast components are required as unlike semi-dry method, stones can only be produced at one per day per mould. Also depending on the finish required, there could be additional work required to achieve the desired result.











All components are carefully hand packed on to timber pallets; each layer of products is separated using timber laths wrapped in non - staining impact foam with individual products being separated by polystyrene spacers.

Each window component is individually marked to identify its build position. The pallet is then shrunk wrapped to ensure that each component is secured within a taut and stable pack. Each pallet will be accompanied with a consignment note to identify the components within the pallet and its destination/ plot number. Each pallet is then carefully moved to our storage area where it is kept until it is required for delivery to site.

The curing period for cast stone is generally 14 days – deliveries or collections inside this period are not recommended but can be facilitated providing the customer carries the responsibility for any subsequent damage or failure

- Ilam stone' Cast Stone products are supplied shrunk-wrapped on pallets for ease of handling. Care should be taken at all times when moving the Cast Stone around the site. Please read the following guidelines.
- Pallets should be stored on flat ground and not double stacked. The shrink-wrap cover should be carefully removed by cutting; this will avoid damaging the edges of the components. Once opened pallets should be left covered to afford protection to the components against water and/or dirt. Products should not be stored face to face without the use of a suitable packaging material. After installation, it is recommended that masonry products be protected against damage from other on-site work.
- Cast Stone products are manufactured for the construction of walls and structures in accordance with standard and local code of practice.
- Packs should always be lifted using the pallet. It is recommended that suitable handling forks should have a width of 90mm and a length of 1100mm.





Fixings

Cast in Stainless Steel Dove Tail Anchor Slots (100mm long) are provided in Window & Door Jambs (with an appropriate Wall Tie). M10 and/or M12 Fixing Inserts are provided in 'Portico' assemblies. M12 and/or M16 Lifting inserts can be incorporated in heavy units (at an additional cost), it is important to observe the relevant advice for 'Manual Handling on site 'in order for the Specifier to meet their CDM Regulations responsibilities. Location dowel holes can be provided in units such as Balustrade Pillars, Window and Door Jambs, Mullions, Heads and Cills and in certain instances the ends of Copings to accommodate stainless steel polypropylene pins (supplied by others) and proprietary fixing systems (also supplied by others).

Handling

For health and safety reasons all Cast Stone Dressings greater than 600mm in length contain handling bar/s. M12 fixing or lifting sockets for use in conjunction with lifting loops (supplied as necessary) can be incorporated, on request. Items that require more than one lifting eye should only be lifted by use of a lifting beam so that side loads are not imposed on the sockets. In certain cases, sockets are included to assist factory handling.











llam Litestone



ILAM LITESTONE Heads and cills closely match cast stone in texture and colour whilst being only one third the weight of its dry cast equivalent.

Most pieces are within manual lifting recommendations a 1405 dry cast cill weighs approximately 61kg whereas the litestone product weighs approximately 22kg. Less weight = Improved handling, less damage.

Litestone is ideal for all large housing developers being available in a standard range of sizes and colours.

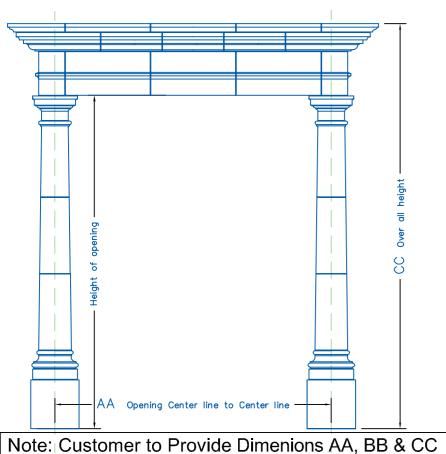
Manufactured to BS1170 Part 5
Mean Compressive Strength 55.5N/mm2+
Water Absorption (cap) <0.68mg/mm2

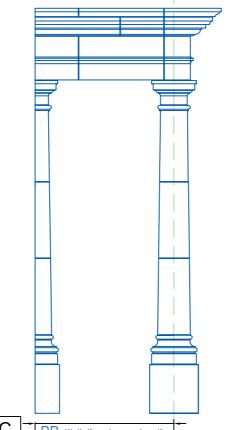


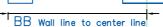


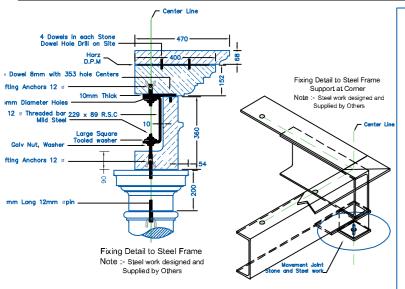
Standard Portico Design



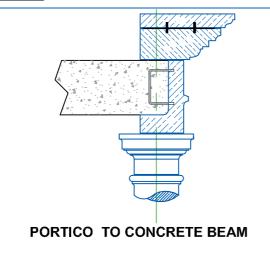






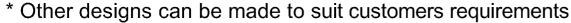


A Steel Frame portico can be designed to fit any measurements you require. The advantage of a steel frame is that the system is lighter in weight.



Fixing detail with a concrete beam Note Designed and Supplied by Others

A Concrete Beam portico can be designed to fit any measurements you require. The advantage of a concrete beam is that the system is more rigid















Maintenance and Cleaning

It is particularly difficult to remove mortar from surface of cast stone. It is for this reason that every effort should be made to avoid contamination. The removal of mortar from the surface can be effected by physically removing as much of the mortar as possible (scrapping, grinding etc.),followed by mild acid washing.

Cleaners

The use of strong acid cleaners should be avoided on cast stone materials. Contamination due to cleaning of higher courses of brick or other materials should be avoided. Oil and grease can be removed by using a chemical degreaser. As with all treatments, this should be tried on a small insignificant area first to investigate any shade variation that may be caused. Cleaning finished cast stone at the end of construction period should be in accordance with the relevant section of BS 6270: 1985.

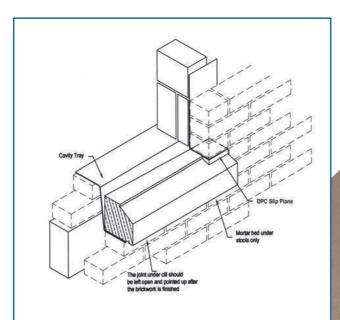
Efflorescence

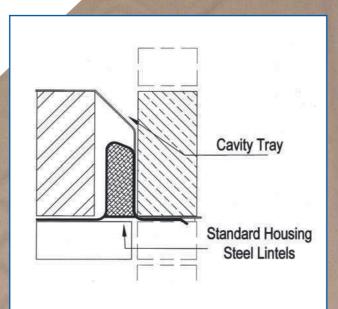
Common to all cementitious-based products, there is a possibility that efflorescence may occur, causing a lighting of the surface colour. This is a temporary phenomenon which will not impair the performance of the product in respect of its durability or strength. Given time, when subject to normal weathering, the efflorescence will diminish and eventually disappear completely. The risk of occurrence of efflorescence will be reduced by protection on site before and during installation. Whilst, it is better to allow the phenomenon to disappear through the weathering process, it may be removed by the use of a proprietary acid cleaning agent (dilute hydrochloric acid). The item, which requires cleaning, should first be soaked with clean water, followed virtually immediately by the application of the cleaning agent, strictly in accordance with the manufacturers instructions and Health and Safety Guidelines. When the cleaning agent has completed its work thoroughly wash down the item with clean water.



llam stone's range of Cast Stone is a excellent example of time honoured craftsmanship combined with modern technology working together in perfect harmony. The result is a wide range of Cast Stone products of exceptional quality with no compromise to aesthetic appeal.

- Installation of cast stone should be carried out by experienced operatives.
- Stooled Cills To prevent cracking after installation only the ends and cill joints should be bedded on mortar. The joint below should be left open and pointed up after the brickwork is finished.
- Slip Cills Should be fully bedded down on mortar
- Decorative Heads Should be used in conjunction with a suitable load-bearing lintel. To reduce the risk of cracking, the Head should be fully bedded down on mortar along the entire length of the load-bearing lintel. This ensures that any load above the Head is fully and equally distributed on the load-bearing lintel.
- Movement Joints Vertical movement joints should occur at intervals of 6 meters in long lengths of walling.
- Mortar Recommendations Premixed coloured mortars are available containing lime, we would recommend that a grade of 1:1:6 (Cement: Lime: Washed Sand) is used as this will give a lower permeability and give a greater resistance to rain penetration. In addition, voids and hairline cracks, which may develop in lime mortars, tend to seal themselves over a period of time.

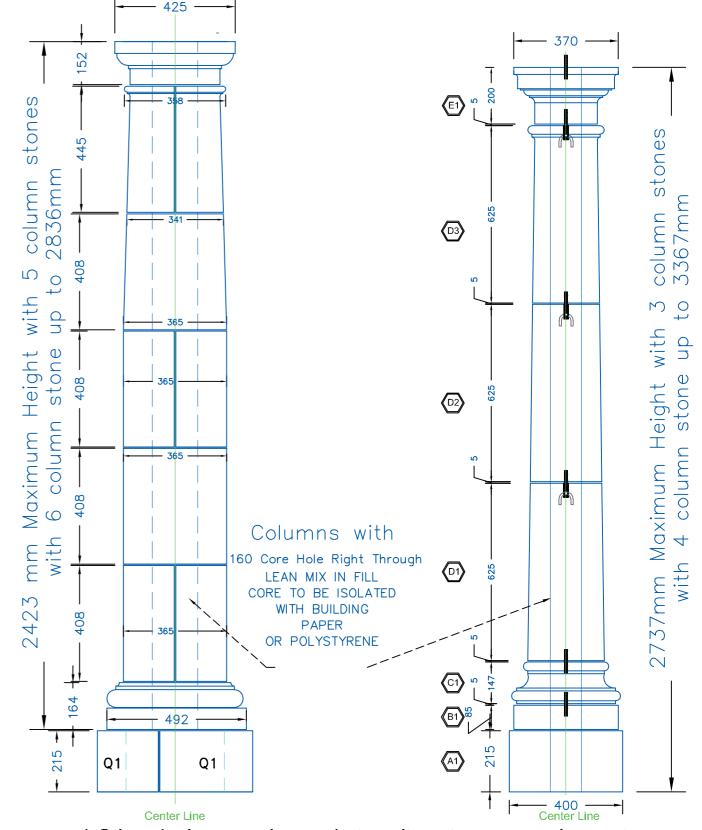






Standard Columns

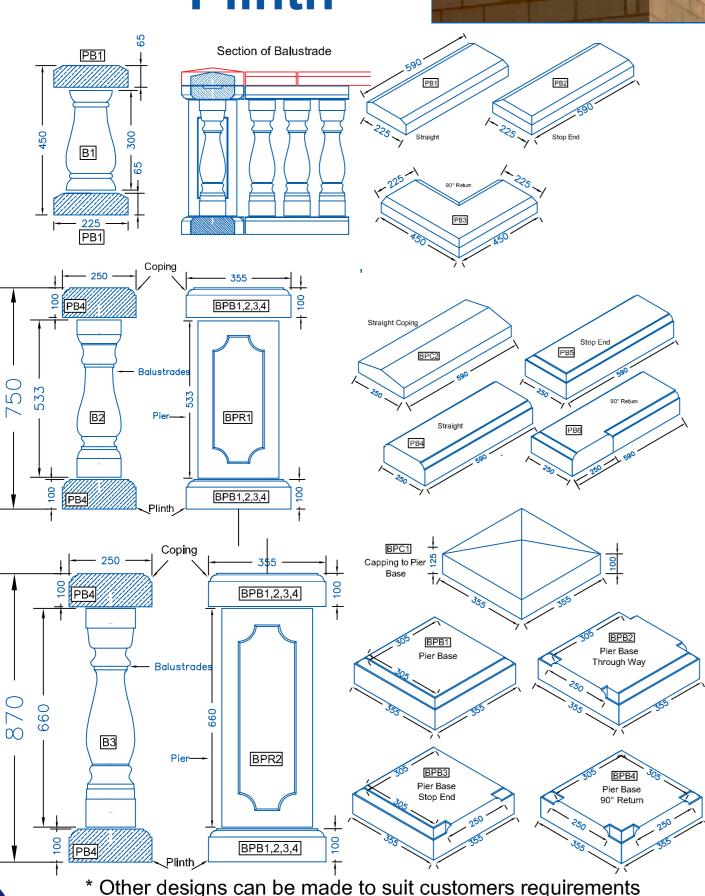




Balustrades, Coning &

Coping & Plinth









Protective Clothing

Protective clothing, particularly on hands and feet, should be worn when handling concrete blocks and bricks, e.g., Industrial Gloves, Toe-protector Boots.

Main Hazards

Packs of Concrete Products are heavy and great care should be taken in their handling. Equipment used for lifting packs must be adequate for the weight involved. Consideration should be given to the weight of some of the larger units. Hardened concrete is inert, but edges and surfaces can be sharp and abrasive. Surface treatment and machine cutting of hardened concrete can create dust, which may contain quartz. If inhaled in excessive quantities over extended periods, respirable dust containing quartz can constitute a long-term health hazard. Respiratory protective equipment and eye protection should be worn during the surface treatment or machine cutting of concrete products. Where packs are lifted more than the storey height, a safety cage around the pack should be used. All personnel must stand well clear of packs when they are being lifted or moved. Abnormal shock transmitted to the pack will encourage breakage therefore this should be avoided.

Transport Storage

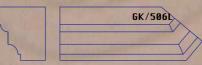
The carriage of Cast Stone products is not subject to hazardous substances. Conveyance regulations and vehicle labelling is not required. Cast Stone products should be off-loaded onto a firm level site. Correct lifting practices should be employed when lifting larger products.

Customer Care

Every employee of the Company is proud of the products produced and standards of service and quality attained. We constantly endeavour to improve our relations with customers by being attentive to their needs, every effort is made to ensure that the order currently being dealt with is just one of many more that the customer will place with the company. May we take this opportunity to thank you for the interest shown in our products and if you require any further information or product samples do not hesitate to contact us.

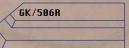
Repair Work

In the unlikely event minor damage is inflicted to the cast stone during or following installation, it is possible to carry out repairs to chips etc. It should be noted that repair work is normally carried out with mixes very similar to those used in the original product and will therefore take time to weather to the colour of the item. (Restoration mortar can be supplied in colours to approximately match the cast stone. This together with the manufactures instructions on usage can be used by site staff to effect a repair – this material is not suitable for the pointing up mortar joints). Any replacement components required due to site damage, would be remade within 3 days of notification, the delivery would then follow as quickly as possible allowing the required curing time











Cop/B

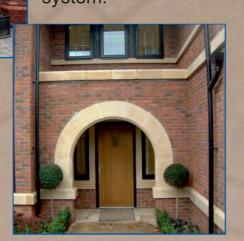






The various designs and products shown on the following pages are predominately decorative, with the exception of Quoins, Ashlar Blocks and String Courses, which are load bearing in compression only. Any galvanised 'handling' reinforcement steel incorporated in the various components, is as required and in accordance with the relevant British Standard. Any third party using wholly or in part the detailed designs contained herein must ensure that those designs satisfy the necessary standards and building design requirements of the application concerned. Information and advice is given in good faith and is, to the best of our knowledge, accurate and true, being offered without guarantee. The Customer must, therefore, satisfy himself of the suitability of any of the products prior to them being used as 'llam stone' will not accept any responsibility for errors and omissions. Whilst detailed drawings may be provided prior to the commencement of manufacture, these are representative of the 'Cast Stone' and should, in all cases, be approved by the Architect and/or Structural

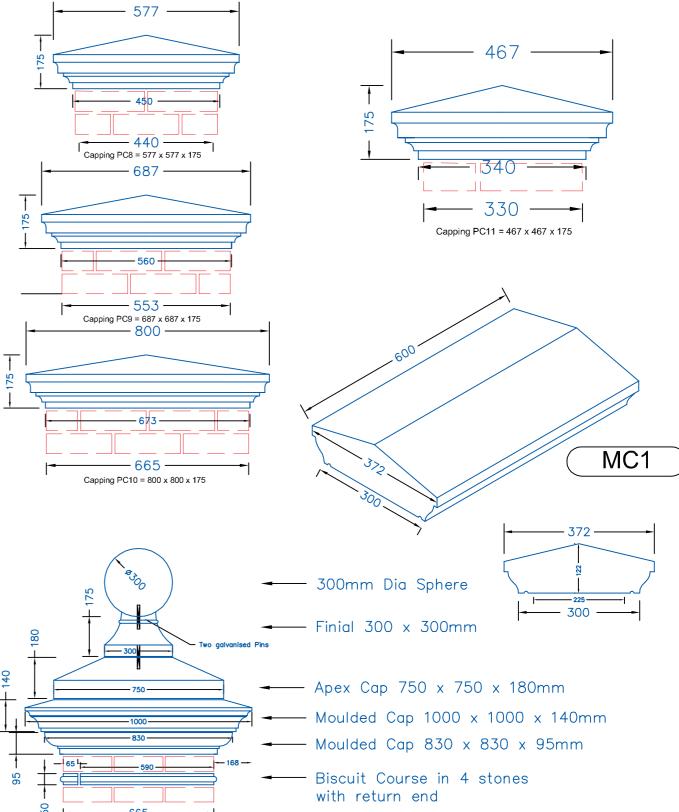
Engineer. Balustrade systems are not designed to resist barrier loading as required in the Building Regulations and in BS 6180. The advice of a Structural Engineer should be obtained if barrier loading is to be resisted by the Balustrade system.





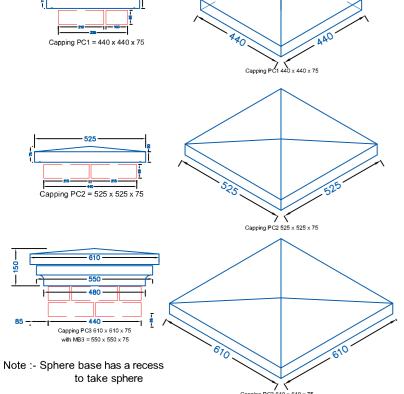
Pier Caps, (5) Spheres & **Bases**

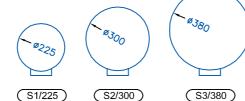


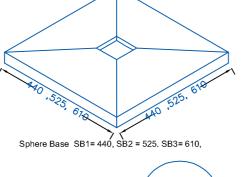


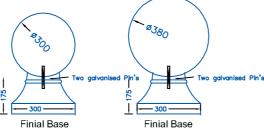
Pier Caps, **Spheres** & Bases

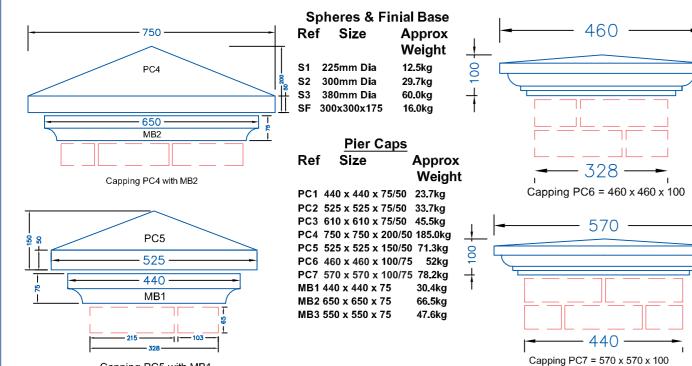












* Other designs can be made to suit customers requirements

Capping PC5 with MB1

STANDARD RANGE





A wide range of Cast Stone Dressings are included in our 'Standard Range' in a variety of shapes and sizes, these are available from standard moulds, to reduce lead times. Included in this range are window and door surrounds, copings, corbels, quoins, porticos, balustrade and many more as indicated on our web page – www.ilamstone.com

COLOUR RANGE FROM ILAM STONE

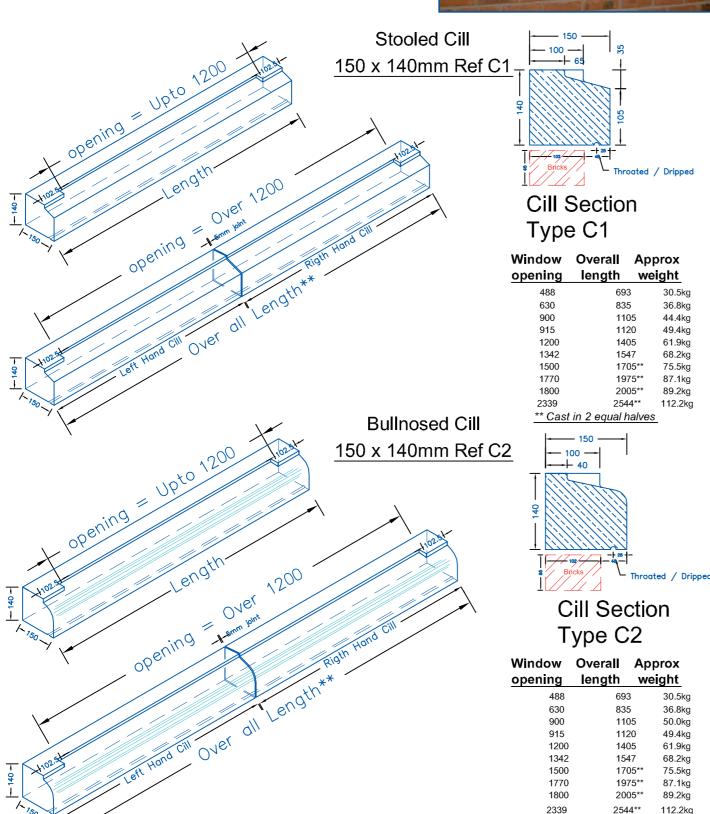


The stones shades illustrated are as accurate as the printing process will permit and stone samples are available if required.



Stooled Cill



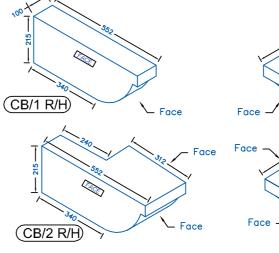


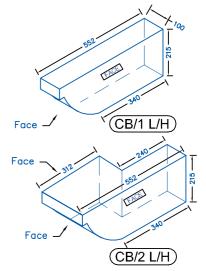
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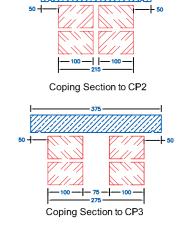


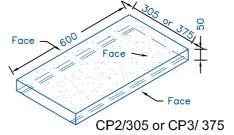
Corbels and Coping's



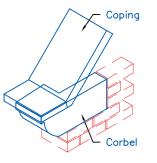


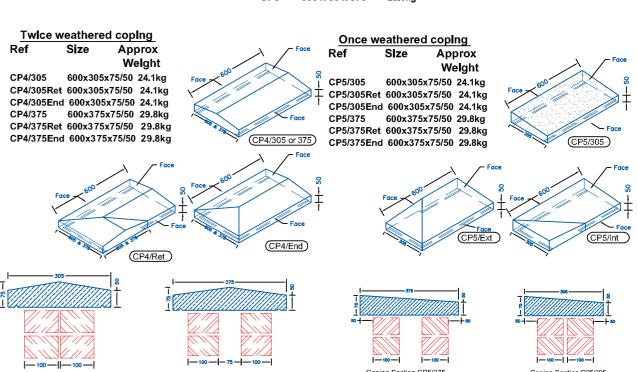






Corbels & Flat coping			
Ref	Size	Approx Weight	
CB1 L/I	H 552 x 100 x 215	24.7kg	
CB1 R/	H 552 x 100 x 215	24.7kg	
CB2 L/I	H 552 x 215 x 215	37.5kg	
CB2 R/	H 552 x 215 x 215	37.5kg	
CP2	600 x 50 x 305	19.2kg	
CP3	600 x 50 x 375	23.6kg	





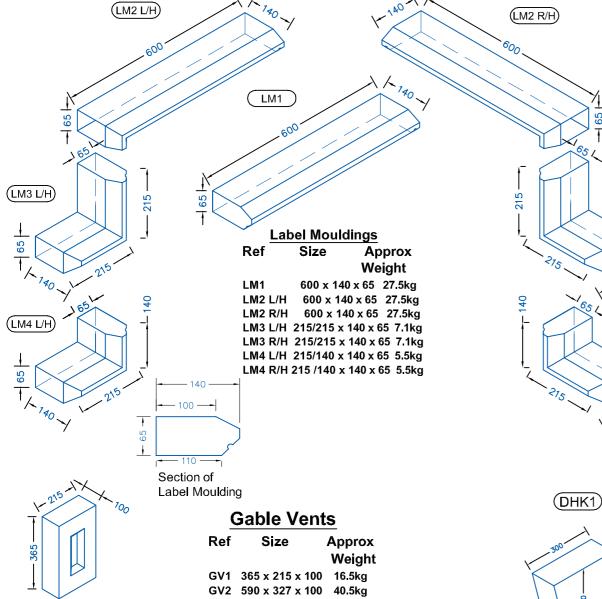


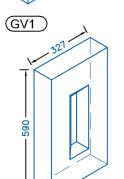


(LM3 R/H)

LM4 R/H)

(DHK2)





<u>Keystones</u>

Ref Size Approx Weight

DHK1 300/150 x 290x 110 15.10kg SOLID

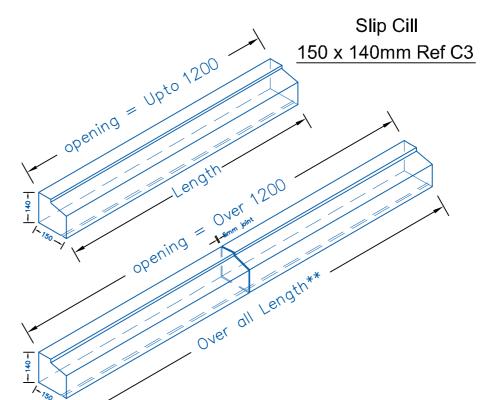
DHK2 300/150 x 290x 130 9.90kg CLIPOVER

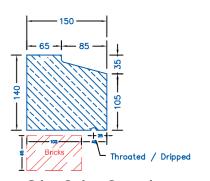
* Other designs can be made to suit customers requirements



Stooled & Slip Cill



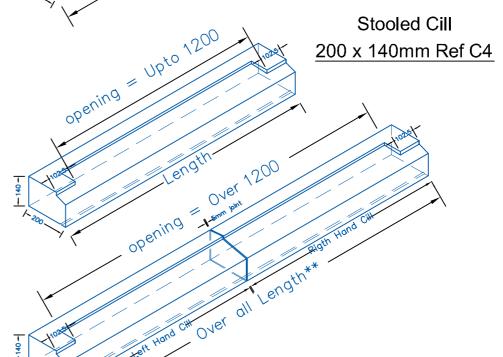


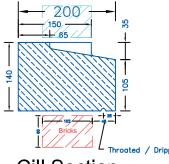


Cill Slip Section Type C3

Overall	Approx
length	weight
1115	49.5kg
1500	66.6kg

Any length less than 1500 long can be made to order





Cill Section Type C4

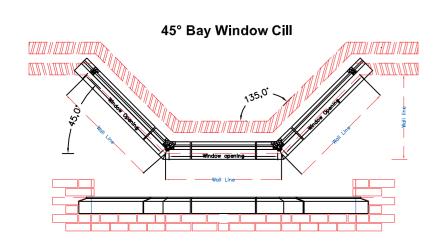
Window opening	Overall length	Approx weight	
488	693	41.1kg	
630	835	49.5kg	
915	1120	66.5kg	
1200	1405	83.4kg	
1342	1547	91.8kg	
1770	1975**	117.3kg	
2339	2544**	151.1kg	
** Cast in 2 equal halves			

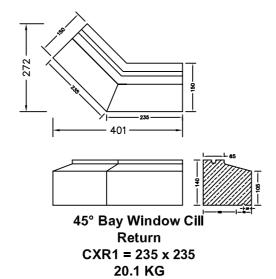
* Other designs can be made to suit customers requirements

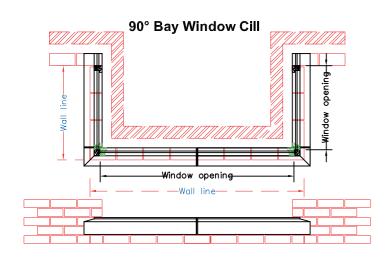


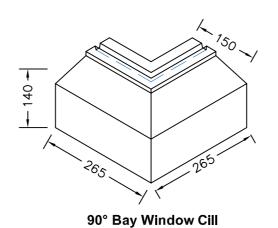
Bay Window



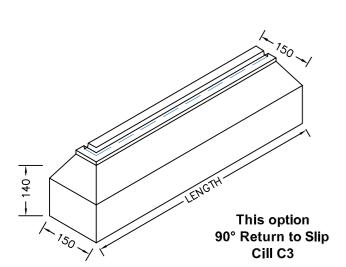


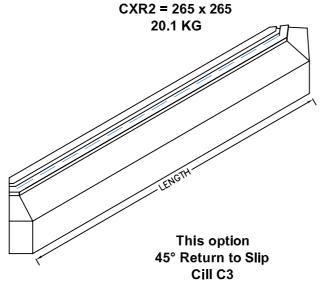






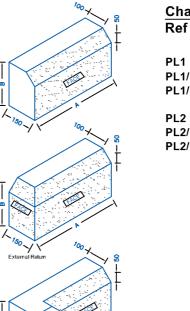
Return



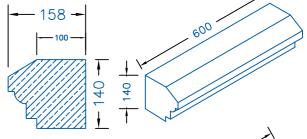


^{*} Other designs can be made to suit customers requirements

Plinth, String, Cornice, & Date Stone's



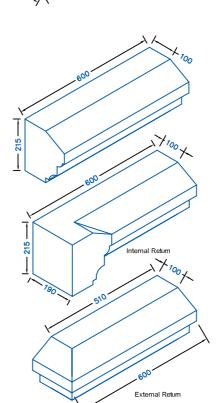
Chamfered Plinth Blocks			
Ref	Dim	Dim	Approx
	(A)	(B)	Weight
PL1	440	215	27.5kg
PL1/ER	440	215	27.5kg
PL1/iR	440	215	27.5kg
PL2	440	290	37.8kg
PL2/ER	440	290	37.8kg
PL2/iR	440	290	37,8kg

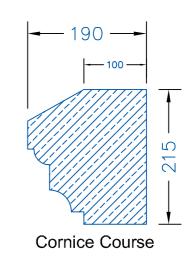


String or Band Course

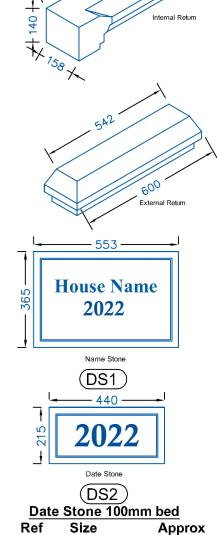
String Course

		, , , , , , , , , , , , , , , , , , , 	
R	Ref	Size	Approx
			Weight
s	C1	600 x 158 x 140	25.7kg
S	C2 I	n 600 x 158 x 140	25.7kg
S	C3 E	x 600 x 158 x 140	25.7kg





Ref	Size	Approx
		Weight
CN1	600x190x 215	43.7kg
CN2 In	600x190x215	43.7kg
CN3 Ex	600x190x215	43.7kg



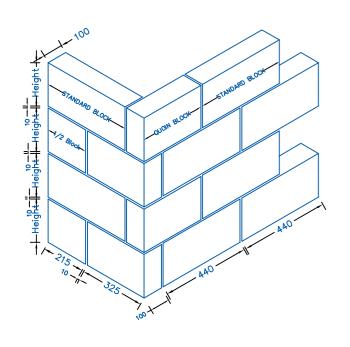
Weight
DS1 552x100x365 42.4kg
DS2 440x100x215 20.0kg

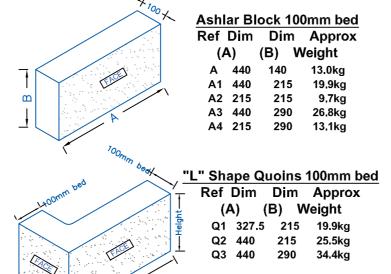
^{*} Other designs can be made to suit customers requirements

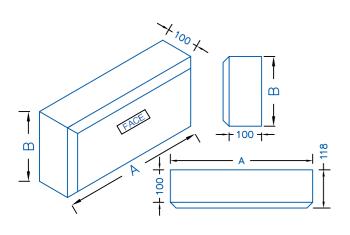


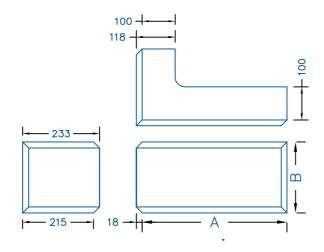
Ashlar & Quoin Blocks





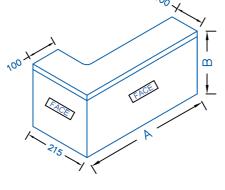






Chamfered Ashlar Block 100mm bed Ref Dim Dim Approx (A) (B) Weight A5 440 215 23.3kg A6 215 215 11.2kg A7 440 290 31.2kg A8 215 290 15.2kg

Chamfered
"L" Shape Quoins 100mm bed
Ref Dim Dim Approx
(A) (B) Weight
Q4 327.5 215 25.5kg
Q5 440 215 31.4kg
Q6 440 290 34.4kg

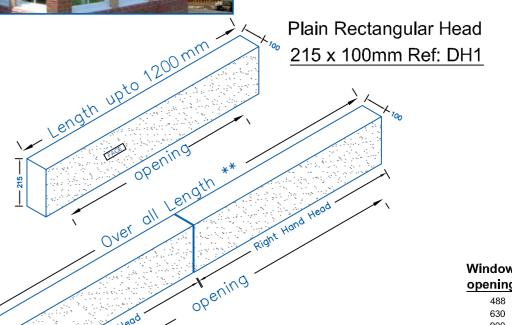


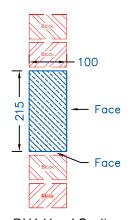
^{*} Other designs can be made to suit customers requirements



Plain Heads



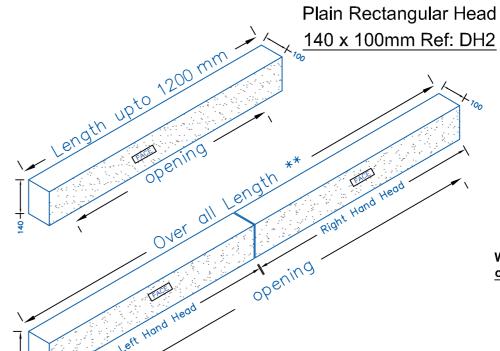




DH1 Head Section

Window opening		Approx weight
488	693	31.3kg
630	835	37.7kg
900	1105	50.3kg
915	1120	50.6kg
1200	1405	63.4kg
1342	1547	69.9kg
1500	1705*	* 77.6kg
1770	1975*	* 89.1kg
1800	2005*	* 91.3kg
2339	2544**	114.9kg

** Cast in 2 equal halves



Block 100

Face

Block Face

DH2 Head Section

Window opening	Overall length	Approx weight
488	693	20.3kg
630	835	20.6kg
900	1105	32.7kg
915	1120	32.9kg
1200	1405	5 41.3kg
1342	1547	45.5kg
1500	1705	5** 50.5kg
1770	1975	5** 58.0kg
1800	2005	5** 59.4kg
2339	2544	l** 74.8kg

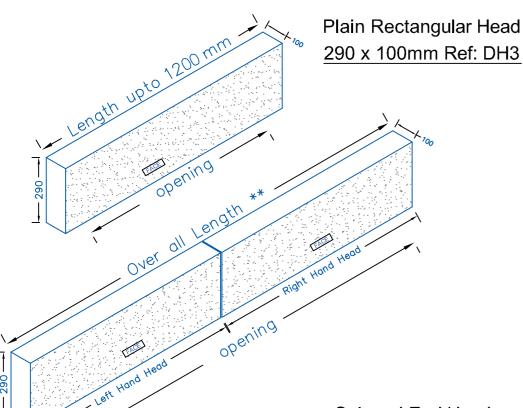
** Cast in 2 equal halves

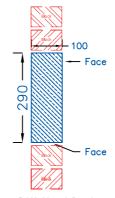
^{*} Other designs can be made to suit customers requirements



Plain & Splayed Heads



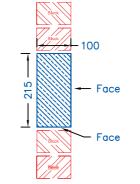




Window	Overall	Approx
opening	length	weight
488	693	42.2kg
630	835	50.8kg
915	1120	68.2kg
1200	1405	85.6kg
1342	1547	94.2kg
1770	1975**	120.3kg
2339	2544**	154.9kg

** Cast in 2 equal halves

Splayed End Head 215 x 100mm Ref: DH4



	per all ength and the	in Hand to Head	100	
Left Hond to H	eod OPening		75, Opening	<u>v</u>

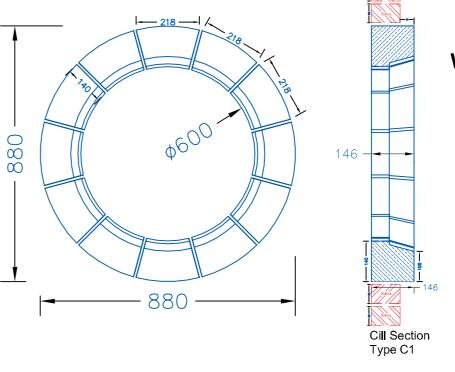
Window opening	Overall length	Approx weight
488	603	24.8kg
630	745	31.2kg
915	1030	44.1kg
1200	1315	56.7kg
1342	1460	63.4kg
1770	1885**	83.1kg
2339	2454**	108.4kg

* Other designs can be made to suit customers requirements

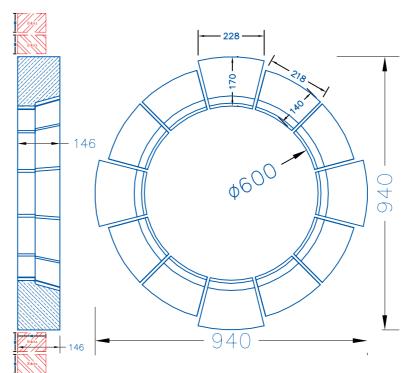


Bullseye Window Surround





Window surround to fit a 600mm diameter window with out **Keystones** BS1 = 102.5kg

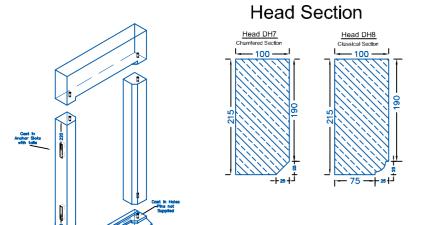


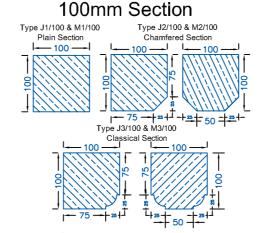
Window surround to fit a 600mm diameter window with **Keystones** BS2 = 125.5Kg

* Other designs can be made to suit customers requirements

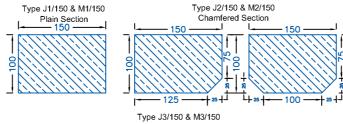
Window Surround

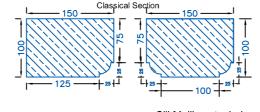


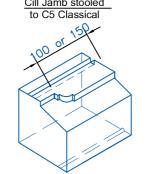


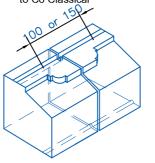


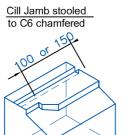
150mm Section Types

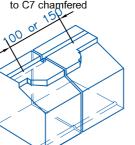


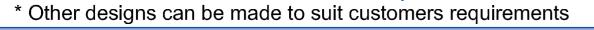








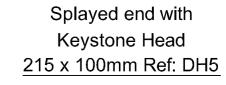


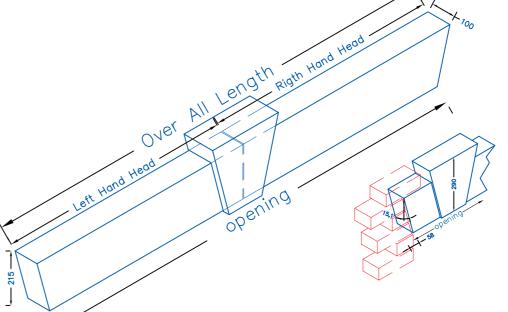


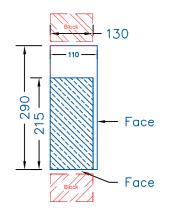


Keystone (5) Heads





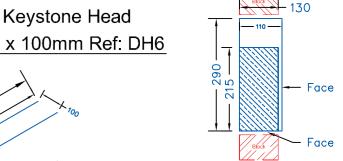




DH5 Head Section With Keystone

Window	Overall	Approx
opening	length	weight
488	603	35.3kg
630	745	41.7kg
915	1030	54.6kg
1200	1315	67.4kg
1342	1460	73.9kg
1770	1885**	93.1kg
2339	2454**	117.9kg

** Cast in 2 equal halves



215 x 100mm Ref: DH6

DH 6 Head Section With Keystone

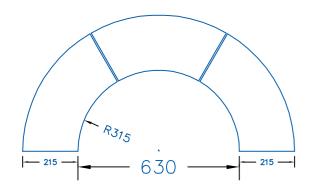
Window opening	Overall length	Approx weight
488	693	46.2kg
630	835	54.8kg
915	1120	72.2kg
1200	1405	89.6kg
1342	1547	98.2kg
1770	1975**	124.3kg
2339	2544**	158.9kg

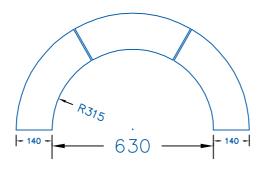
* Other designs can be made to suit customers requirements

B Arch Sets

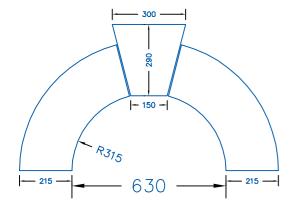
Window Opening

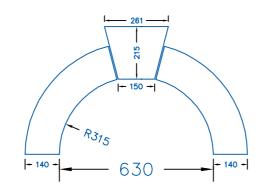




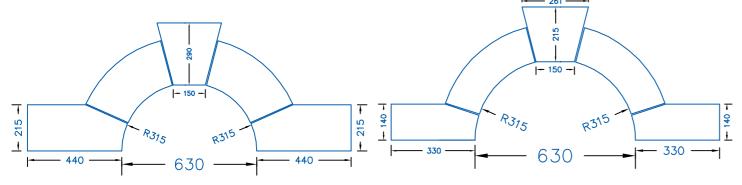


Plain Arch





Keystone Arch



Queen Anne Arch

* Other designs can be made to suit customers requirements

Door Surround



